D. FOLSOM

The Potato News Bulletin

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The Potato Association of America

A. G. Tolaas, President, Univ. Farm, St. Paul, Minn.
S. G. Peppin, Vice-President, Exp. Farm, Charlottetown, P. E. I.
W. Stuart, Sec'y-Treas., Dept. Agr., Washington, D. C.
W. M. Peacock, Ass't Sec'y-Treas., Dept. Agr., Washington, D. C.

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ANNOUNCEMENTS

The readers of this publication will be glad to learn that our secretary-treasurer, Prof. Wm. Stuart, is going to attend the Scottish Potato Conference on August 20-21 at Edinburgh, and to review the potato experiments at East Craigs, Scotland; Ormskirk, England; Cambridge Seed Testing Station, England, and to do other potato investigational work in Great Britain and in France. He will be gone for about six weeks, and will be greatly missed even for this short period. After his return the potato interest of America will be much benefitted by his experience abroad.

During Professor Stuart's absence every member should do his best in keeping up the standard of **The Potato News Bulletin** and in securing new members. Don't leave it for "George" to do, because he may be asleep at the switch!

Evan H. Jones of Waterbury, Conn., who recently joined our association has the right spirit. The writer cannot refrain from quoting his letter of July 24: "I have read all **The Potato News Bulletins** which I received, from cover to cover. I believe that there are other potato growers here in Connecticut who would find these bulletins just as interesting and helpful as they have been to me. It may interest you to know that we have contracted for 18 carloads of certified seed potatoes that we are going to sell in Connecticut. When we start out our men this fall soliciting orders for fertilizer, spray material, field seeds, etc., we are going to instruct each and every man when he sells seed potatoes to try to get our customers to join The Potato Association of America. We feel that the potato growers will be benefitted by being members of this association."

This is good co-operative spirit — the kind that every member should possess. If this were true you would be receiving a real weekly potato publication. It is not too late to start.

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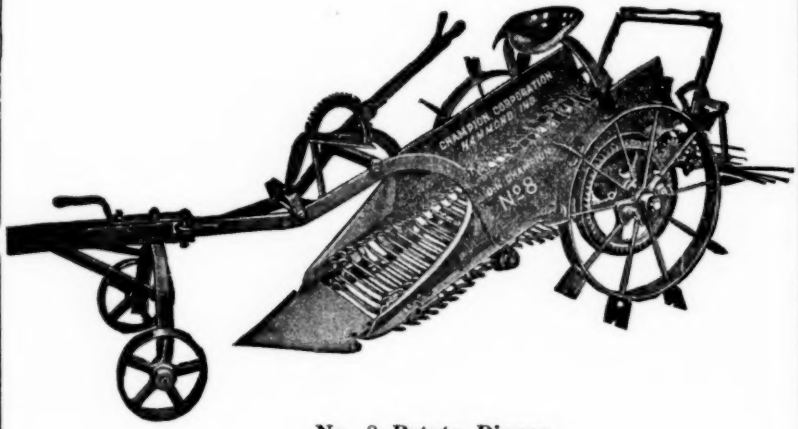

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potato investigator or others deeply interested in the potato industry can afford to be without the publications published by the Potato Association of America.

On account of some of the numbers of this publication being exhausted, the membership of new members will begin with the date of the receipt of their application blanks. Available issues of **The Potato News Bulletin** are for sale at ten cents per copy.

Walter M. Peacock.

POTATO NOTES

California.—The total acreage of potatoes in the Stockton district this year is 27,000 acres, of which 20,000 are eastern seed and 7,000 acres are Burbanks. Last year on practically the same acreage the Stockton district produced 1,800,000 sacks of marketable potatoes. The crop this year is from thirty to forty-five days earlier than it was last year, due to dry weather and to early planting. The potato crop at Stockton, wherever fertilizer was used, the land properly prepared and the right cultural methods practiced, will average around 125 to 150 sacks per acre. Owing to unfavorable conditions and the yield of these areas is not as good as last year. No fertilizer is used on a major portion of the acreage. It was thought that the use of eastern seed was going to solve all the problems, but it has not. The average yield looks as if it is going to be about 80 sacks per acre as against 75 sacks last year.

The acreage of potatoes in the Los Angeles district is about 7,000 acres, of which 2,000 were dug by July first and about 1,000 abandoned for lack of water and on account of poor stand. The acreage yield on the remaining 4,000 acres is about 60 sacks per acre. The total production of potatoes in California will be about the same as last year.—**Weyl Zuckerman & Co., July 19.**

California.—The potatoes produced in the Los Angeles district will be pretty well out of the way by August first. Almost the entire crop has been used locally, very few cars having been shipped out of the State. The early estimate of light production was fully borne out by the actual yield.

In the Stockton district the early potatoes that have been harvested indicate that the yield is averaging about 100 sacks per acre. This is just about what was expected. There has been a much heavier movement of Stockton potatoes during July than took place last year and this will compensate for the increased production in the early crop this year as compared with last year. The late crop is still in the making. Taking the acreage as a whole, even with the materially increased quantity of eastern seed, we do not look for any material increase in the total quantity proluced. There will be a slight increase but it will not be as great as expected. We still believe that the total production of potatoes in

California this year will not be much greater than last year.—**Weyl-Zuckerman Co., July 25.**

Marin County, California. — Acreage in the Tomales district this year is slightly above normal — about 2500 acres. Condition of crop is somewhat below normal, on account of the lack of rain the past winter, only about 19 inches being received instead of the usual average of 35 inches. The moisture supply is ample, however, to make a good crop on carefully handled soil that was planted early, that is late April and early May. Late May and early June plantings look badly.

This potato district centers around the towns of Tomales, Valley Ford and Sebastopol. It is one of the oldest potato districts in the West. The principal opportunity is production of high grade seed potatoes — an opportunty that has not yet been taken advantage of properly. Conditions are such that large yields cannot be expected, yet climatic conditions seem very favorable to grow high grade seed. The land is too rough and hilly for irrigation, but with dependable winter rainfall and a very low water requirement for the crop, due to cool, humid coastal climate, a satisfactory crop is possible without irrigation.

June 30, Farm Advisor, M. B. Boisevain, conducted a potato tour attended by about a dozen of the younger growers. The fields visited showed considerable spindling sprout, a little mosaic and fusarium wilt. In a few fields planted with untreated seed, the stand was very ragged, apparently due to rhizoctonia. Several growers are going to rogue seed plots carefully for next year's seed. The principal variety of this district is the British Queen, which does well here, but does not take well on California Markets. Three red varieties, Late Rose, Red Prizetaker, and Bodega Red, are grown to a limited extent. The last is an especially fine keeper, and is in demand for the off-shore trade and for export to the Philippines. Both the Burbank and the Russett Burbank command a premium over other varieties grown, but are not so productive. The Division of Truck Crops is conducting a variety and strain trial in co-operation with the Farm Advisor and Will Bragga of Two Rocks.—**J. T. Rosa, July 1.**

British Columbia.—In order to find out how long it is possible to keep stocks free from mosaic, two lots of mosaic-free seed potatoes were imported into the Province this year. These are being grown under isolation. The two varieties are Irish Cobbler and Green Mountain. At the present time both lots are extremely healthy. Time alone will tell how long it will be possible to grow them free from disease.

Another line of investigational work is being conducted in order to secure some information as to the best districts for the production of seed potatoes in this Province. The Department of Agriculture distributed six varieties of potatoes to each of six different districts of varying climatic conditions. The varieties selected are:

(early)—Early St. George, Early Ohio; (medium early)—Irish Cobbler, Early Rose; (late)—Green Mountain, Netted Gem. Each variety was secured from a common source. The six districts in which the tests are being carried out are as follows: Windermere in the Kootenays (irrigation, low average annual temperature); (2) Summerland in the Okanagan (irrigation, high average annual temperature); (3) Telkwa in Central B. C. (natural moisture, low average annual temperature); (4) Chilliwack in the Fraser Valley (natural moisture, moderate average annual temperature); (5) Victoria on the Saanich peninsula, Vancouver Island (dry—no irrigation, low average annual temperature).

Each lot of potatoes will be carefully inspected for disease, and mosaic in particular. After inspection each plot will be carefully rogued. The product of each plot of all varieties in the six districts will be planted side by side in 1925 in the same six districts and records kept of the yields.—**C. Tice.**

Connecticut.—Dry weather is maturing Irish Cobblers. We have several men who formerly grew potatoes in Maine and are practicing Maine methods in Connecticut, which means high ridging. The 8 weeks of continuous dry weather have dried the soil below the bottom of the potato plants resulting in a complete collapse of the plants. The yield on such fields will be from 35 to 50 bushels per acre. The promise of yield earlier was at least 250 to 300 bushels per acre on many of these fields. The fields of late potatoes are showing a little tinge, indicating injury from lack of water.

With this as a background and the continued shipments of southern supplies to our market with low prices, the potato situation in Connecticut at the present time is very depressing. Our growers think the cost of production this year will be from $150.00 to $175.00 per acre and with prices of $1.00 to $1.25 per bushel, with yield cut down due to drought, the outlook is very gloomy. All our growers are hoping that the southerners and middle Atlantic shippers will sell their crops quickly, allowing the market to recover so that we can get a more reasonable price for our product.

Several large fields of certified seed from one source in Maine indicates an exceedingly high percentage of blackleg. This is another attack on our work encouraging the use of certified seed.—**A. E. Wilkinson, July 28.**

Hartford, Conn.—Just now everybody is rather pessimistic about potatoes. We have had absolutely no rain in this locality since June 27. Fields that promised a big crop a month ago, now have the vines all withered up.—**B. G. Southwick, July 28.**

Kansas.—The Kaw Valley crop is about one-third harvested and the yields are running very good, with the exception of one county

in the western end of the valley where dry weather has hurt them severely. Most of the counties where the seed has been treated the yield is about 200 bushels of U. S. No. 1 or better per acre. The quality as a whole is exceptionally good and about 40 per cent of the cars are going out as U. S. No. 1.

A valley wide meeting of the growers last week decided to stop digging when the market was flooded. By doing this they felt they would give the market a chance to clear up what was already on hand and to stimulate a stronger demand.—**E. A. Stokdyk, July 14.**

Maine.—The following is a brief outline of conditions to August 1. Early in the season we had considerable dry weather which curtailed the growth of the late planted potatoes considerably; then coupled with this came the cut worm which did considerable damage in different sections in Aroostook County. There are considerable misses all over the northern part of the State of Maine which are due to the former mentioned troubles.

Light rains, cool nights and favorable weather has prevailed for the last ten days and the plants are looking very good. I should estimate, however, that we would not harvest over eighty per cent of the normal crop estimating from present conditions.

Practically all of the fields which were planted from stock that was certified last season is showing a high percentage of stand and good, vigorous vine growth which goes to show that only the very best seed obtainable should be planted; even under Aroostook conditions, where we have favorable growing weather.—**Ray D. Hews, Maine Potato Growers' Exchange, August 2.**

Maine.—The writer has spent the last three days in Aroostook County and, generally speaking, the crop is not up to standard owing to drought, cutworms and fertilizer injury. A few showers the past ten days have helped some. The best seed is, as usual, leading the other fields and also shows a better stand. It is estimated that there are 15 per cent misses in the crop, but of course, this does not mean a 15 per cent cut in yield.

Early reports on the certified seed acreage show that, although many of the best fields have been entered for inspection, there are still too many fields being offered for inspection that are not worthy. This department had contemplated cutting the mosaic on the first inspection to 3 per cent, but careful consideration will be given before this is done. Inspection work this year shows that fields carrying less than 5 per cent mosaic are pretty nice fields, inasmuch are a large per cent of the mosaic present is of a mild type.

It has been a big disappointment to many of our growers that practically none of the eight cars of Triumph which were imported will pass seed certification requirements. There is much to be said, however, for the imported stock in that it is better than any of the Maine grown. The plants are rugged, the stand good, and

there ought to be a much larger yield than from the old native Triumph.

Seed certification work is progressing well. There are forty-four inspectors on the certified seed work at the present time. The Maine Potato Growers' Exchange has several men in the field who are co-operating with us as well as some of the independent growers who have hired field men to work for them. There is practically 25,000 acres under inspection in the State, and it is hoped to get a check on the best stock for seed within the next ten days.—**E. L. Newdick, August 1.**

Michigan.—The Northern Michigan's Second Annual Potato Show will be held at Gaylord, Mich., Nov. 5-7. Sufficient funds are now assured to offer $3,000.00 in cash premiums.—**W. Stuart.**

Michigan.—The acreage devoted to potatoes is 4 per cent less than last year according to the preliminary estimate, or 301,000 acres, the smallest area planted since 1919. More commercial fertilizer is being used and more farmers are specializing in the growing of certified seed. These progressive movements will tend to increase the yield per acre and a corresponding increase in profits. The reported condition is 88 per cent, although it is too early to establish the exact situation. This figure, if maintained to the end of the season, represents a production of 27,548,000 bushels. This is more than 8,000,000 bushels less than that of last year. —**H. C. Moore, August 1.**

Nebraska.—The seed potato certification work in Nebraska (as mentioned in a previous issue of the **Potato News Bulletin**), has been transferred to the Nebraska Certified Potato Growers' Co-operative. This organization was recently created for the purpose of certifying and selling seed potatoes. The certifying will be done according to standards recommended by the Agricultural College and by inspectors whom it approves.

Every grower wishing to have his seed potatoes certified has signed a contract whereby he agrees to sell his potatoes, if certified, only through the above mentioned organization. This organization has been created with a view to giving all the growers proper protection in the matter of price, yet affording each grower a very considerable voice in the selling of his crop. From time to time, according to market conditions, the executive board will issue a statement to all the members, specifying the minimum price, below which no potatoes are to be sold for a specified period of time. Growers may then list for sale on the basis of such minimum, as many potatoes as they desire to sell. The organization will then have the right to sell and call for delivery of any such lots of potatoes at any time during that period. If any grower desires to sell his potatoes to any special party and is able to get an especially favorable price for his stock, as a result of his efforts, he can take advantage of such an individual sale, but the business

must all be transacted through the organization. Almost every grower who applied for certification is continuing with the work after having made a contract with the "Co-operative."

This organization was created as a result of an almost unanimous demand, following the unsatisfactory prices received for the certified Triumph seed crop in Nebraska, last year.

The certification manager of the organization is Wm. Morrow and the sales manager is George Neuswanger. The offices of the organization are located at Alliance, Nebraska.

The creation of this organization, which will have the control of the sale of the entire crop of certified seed, it is hoped, will result, not only in a better price to the grower, but in a more systematic marketing and delivery of the crop, as well as exerting a general stabilizing effect upon the entire seed potato industry. This will undoubtedly be very beneficial to both the northern producer and southern planter of certified seed potatoes.—**H. O. Werner, July, 19.**

New Brunswick.—General conditions of the potato crop in New Brunswick have improved considerably in the past month. The total acreage in general crop is 10 per cent greater than last year, whereas the acreage under inspection for certified seed has jumped from 3,500 acres in 1923 to 6,500 acres in 1924. Of the 6,500 acres for this season's inspection, 3,200 acres are Green Mountains, 2,900 are Irish Cobblers and the balance is made up of small acreages of other varieties. The first field inspection is now in full swing while the potatoes are just coming into bloom. Mild mosaic symptoms have been masked until the fourth week in July. Blackleg is more prevalent this year than in 1923 and the cut-worms have done considerable damage in some sections. On the whole, recent rains have increased the prospects for a good season. New Brunswick will welcome any and all interested in high class seed potatoes to pay a visit to this province in the near future. The field day will be about the middle of August. Notices will be sent out as soon as a definite date is arranged.—**J. F. Hockey, July 24.**

New Brunswick.—In spite of the somewhat unfavorable weather during the past few months, the New Brunswick potato crop on the average is very promising. The area devoted to certified seed is considerably increased, and the fields, on the whole, are remarkably free from disease. This is due in a large measure to the rigid inspection in the fields and at the time of shipment, together with the fact that our growers realize that the future of the industry depends upon satisfied customers.—**C. L. Bailey.**

New Brunswick.—Potato Tour and Third Annual Field Day will take place August 15-17, following the potato tour in Aroostook County, Maine, on August 13-14.

Aug. 15—Inspection of potato fields in Carleton County and in the Millville, Keswick, and Lincoln districts.

Aug. 16.—Inspection of the following experimental work at the Experiment Station at Fredericton—

(a) Investigations of potato diseases. (b) Methods of applying fertilizer. (c) Tests of strains of potatoes. (d) Spraying versus dusting. (e) Size of seed. (f) Test of effect of storage temperatures. (g) Hill selection plots. (h) Test of insecticides and fungicides. In the afternoon addresses by J. F. Hockey, F. J. McLeod, E. M. Taylor, and A. A. Kelsall.

Aug. 17.—An inspection tour through the Bay Chaleur district.

Walter M. Peacock.

New Jersey.—Digging in central New Jersey has been delayed owing to the low prices. The present indications are that many of the growers will begin digging the first of next week. The outlook for a crop is good and the quality should be better than it has been for the past three years. This year the Monmouth County Farmers' Exchange will pay a premium for quality stock. This is the first effort to discriminate against poor quality stock and promises to result in some radical changes in potato production methods in the State.

The spraying experiments conducted this year have shown up very well, the unsprayed plots maturing from a week to two weeks earlier than those sprayed with home-made Bordeaux mixture. Late blight was first observed in the State on July 1 and at that time and for the week following promised to be very severe. By the second week in July, however, the weather became dry and hot. Since then the disease has advanced but little, present indications being that the losses to the late varieties will be very slight. The Irish Cobbler variety had almost matured before the disease made its appearance so that it was of minor importance on the early varieties.

In the comparison of northern and southern grown seed being conducted on the Frank Ott farm at Bridgeton, observations made on July 14 showed that on the former 92.6 per cent of the leaves were dead as compared with 28.8 per cent on the seed from the same strain grown for one year and 15.1 per cent for that grown for 2 years as a late crop in New Jersey. In a test with the same lots of seed being conducted at New Brunswick, similar differences were apparent on July 23.

This year there will be a reduction in acreage in the late crop grown for seed. In 1922 there were 28,076 sacks of seed in cold storage in South Jersey, in 1923, 30,440 sacks, while this year the number was reduced to 23,427. The reduction in acreage promises that there will be more good seed produced in southern New Jersey this year than for some time. Most of the growers are maintaining a seed plot and all spray with Bordeaux mixture. The crop is being planted at the present time.—**Wm. H. Martin, Aug. 1.**

New York.—On August 1 about 200 growers and users of certified seeds journeyed to Ithaca to gain a close-up view of what

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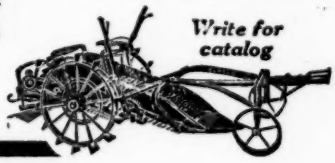

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the New York State College of Agriculture is doing to help them get seeds of better quality. Considerable time was spent on the experimental ranges of the Department of Vegetable Gardening where Dr. Hardenburg explained the work the college is doing to determine the effect of planting seed potatoes as late as July 21 or harvesting them as early as August 25 on the resultig crop. Another line of investigation being pursued by the Department of Vegetable Gardening and of particular interest to seed growers is an experiment designed to determine the effect of soil types on seed potatoes grown thereon. For the purposes of this experiment the college is employing muck and sandy loam in Madison County, muck and stony loam in Wayne County, and sandy loam and heavy silt loam at Ithaca. The latter experimental plot was examined by the visitors. Dr. Hardenburg also pointed out a field where he has 108 named varieties growing. These include all of the commercial groups and varieties growing in this country and Canada.

As the very great majority of those who attended this first annual summer meeting of the New York Seed Improvement Cooperative Association were growers of certified seed potatoes, they were most interested in the seed source test being conducted by the Department of Plant Pathology on the university farm. The College of Agriculture has planted in this test, 100 tubers representative of every lot of seed that is being grown for certification in this State this season. There are 209 samples. They were planted the latter part of May, which enabled the college to perform two inspections before the first field inspection was begun. Although a few of the samples showed a very high disease count, particularly in the case of some Triumphs recently brought to this State, most of the samples showed a very low disease count. Both the growers and authorities at the college were agreed that this method of sample testing as a supplement to the regular inspection service is the most important improvement that has been made in our certification system since it was begun in this State ten years ago.—**J. M. Hurley, August 2.**

New York.—During the last half of July the writer visited parts of Onondaga, Cayuga, Ontario, Monroe, Livingston, Steuben, Cortland, Saratoga and Washington Counties. Except for injury resulting from flooding and washing, the condition of the potato crop appeared better than average.—**J. M. Hurley, August 2.**

North Dakota.—There are now in the field three field crop inspectors, each of them carrying out field crop inspection on potato fields which are up for certification. Mr. W. G. Couey is working in the northwest section of the State most concerned with Triumphs; Mr. Andrew J. Moyer is working in the Red River Valley mostly on Cobblers and Early Ohios; Mr. H. D. Long is handling the territory west from the Valley and south of the N. P. Railroad and west of the Missouri River, in which territory he will meet

with various varieties of potatoes, but is working most heavily upon certification of Grimm alfalfa, flax, etc.—**H. L. Bolley, Aug. 1.**

Ontario.—The acreage in early potatoes, Irish Cobblers, this season in southern Ontario shows a considerable increase over last year. The weather here has been wet, cool and backward this spring and the digging will commence generally two weeks later than usual in the early potato districts of Essex, Kent, Wentworth and Lincoln Counties.

The crop looks very promising, especially those fields planted with Certified seed. The stands of Certified Irish Cobblers from Northern Ontario are particularly good; they are very even, very free from diseases and foreign varieties. The growers are well pleased with the looks of this northern seed and are already making arrangements to purchase next year's supply of seed from the Rainy River and Thunder Bay districts in northern Ontario. Many growers who put off ordering their seed until the spring were unable this year to procure anything but table stock Cobblers from outside sources. It has been a lesson for them, as these growers' fields now show from 10 to 30 per cent foreign varieties and considerable blackleg, leaf roll and mosaic.

A successful "Field Day" was held recently at Ridgetown Experimental Station. The potato growers turned out for this meeting in good numbers, better than was expected at this busy season of the year, and evidently nobody regretted the time spent out on the test plots. They all stayed for the lecture and demonstration on potato diseases in the field.

Interest in the potato inspection service and certified seed potatoes generally is evidenced by the fact that there has already been ten requests received from different districts in Ontario for field days and lectures on potato diseases in the field.

The crops in the seed growing districts of Devlin and Burriss in the Rainy River section, and Fort William, Port Arthur and Dorion in the Thunder Bay section are very backward indeed this year owing to the cool and dry weather there, but potatoes are doing the best of any crop there and about an average crop is looked for, as there is an increased acreage planted to seed potatoes in those districts this year.

Over three hundred growers in Ontario have requested inspection of their potato fields with a view to certification this season with a total acreage of over 1000 acres. This represents a 100 per cent increase over 1923. Irish Cobblers, Green Mountains and Rurals are about the only varieties entered for certification. The acreage planted with Irish Cobblers shows a large increase over other varieties.

Four new certified seed potato growers' associations have been formed recently in Northern Ontario, one each at Oxdrift, Dorion, Murillo, and Slate River; one of the principal objects these new associations have in view is to turn out car lots of Irish Cobblers, 100 per cent true to variety and fully up to standard in every way,

quality before quantity, and each car lot a recommendation to the association which loaded it. Needless to say they bid fair to make a success of the business as long as they will hold to those ideals. Unfortunately, practically all the seed from these districts has to be shipped in the early fall, especially the early varieties, as owing to the extreme cold weather in these northern districts there are no seed potatoes shipped between November 7 and May 1 as a rule, however the growers to the south are being educated to the fact that if they want this good seed they have to order early and accept delivery in October.

Growers are taking more interest in the treating of seed potatoes than formerly, and the writer gave practical demonstrations where requested by the growers on over one hundred farms this spring (treating 1,800 bags in all with the corrosive sublimate treatment). Some of the potato districts in northern Ontario were not bothered to any extent with the Colorado potato beetle or the late blight until quite recently, and spraying potatoes is something new to many of the growers there but the serious losses to them from these two items alone the last two seasons has brought home to these men the necessity of spraying to keep these troubles in check. The Department of Agriculture has loaned two high pressure sprayers to growers there this season to demonstrate the necessity of careful spraying and these demonstrations are being closely watched by the growers in the districts where they are operating and it is expected that spraying will be generally practiced in the North from now on.

We are endeavoring to cut down on the number of varieties grown and to improve on those varieties which are most suited to our climate and markets, many of the large fall fairs are co-operating along this line in offering prizes for exhibits of four varieties only, viz., Early Ohio, Irish Cobbler, Green Mountain and Dooley; other fairs award prizes to certified seed potatoes only. In the "Standing Field Crop Competitions" this year five points are deducted from the total score if entries are other than the above varieties.—**J. Tucker, July 22.**

Prince Edward Island. — The Prince Edward Island Potato Growers' Association, Inc., with head office at Charlottetown, Canada, is a cooperative organization carried on for the purpose of marketing the crop of certified seed potatoes produced in the Province. It also purchases for the growers the chemicals for fertilizers, spray materials, insecticides and sacks.

The report submitted at the annual meeting held in July shows the Association did a business of more than half a million dollars.

The seed potatoes are shipped mainly to Virginia, the Carolinas, New Jersey and Long Island. The aim of the Association is to market the highest class of seed potatoes of the Irish Cobbler and Green Mountain varieties, giving particular attention to type, grade, and freedom from disease; always guaranteeing the purchaser against loss through any neglect on the part of the shipper.

The system practised by the Association is to make the producer responsible, which practically insures the elimination of all undesirable shipments.

The Secretary of the Association has visited Virginia and other centers where seed has been distributed and was pleased to hear the growers speak appreciatively of the "Garden of the Gulf Brand Certified Seed Potatoes."

Prince Edward Island, the "Garden Province" of Canada, noted for its seed potatoes, particularly of the Irish Cobbler and Green Mountain varieties, is ideally situated in the Gulf of St. Lawrence. Its cool, invigorating climate and fertile soil make it possible to produce heavy yields of potatoes without the use of a heavy application of chemical fertilizers. The growers are given free inspection service by the Dominion Department of Agriculture, Ottawa. This consists of two field inspections during the growing season and very rigid tuber inspections at time of shipment.

The acreage planted for seed certification shows a very large increase over 1923; there being upwards of nine thousand acres for which application has been made for inspection. The inspectors are now at work and report very little disease, due no doubt to greater care on the part of growers in seed selection as well as seed treatment. The crop, at time of writing, is in full bloom, and although the season is dry the foliage is excellent.—**W. Boulter, July 30.**

Prince Edward Island.—Last year we found a few Irish Cobbler plants in our plots at the Experiment Station with white blossoms. Thinking this might only be a temporary freak of nature we staked them for replanting this year. Every plant is now in full bloom and in each case the blossom pure white, otherwise the plants have all the characteristicts of the Cobbler variety. The tubers are quite normal and true to type.

Whenever our inspectors meet with this "freak" in our certified fields we advise rogueing in order that the purchaser of our seed stock may not think he has a foreigner when his field comes into bloom.

Our inspection work is now well under way, early reports indicate a considerable reduction in the percentage of blackleg plants. This is probably due to our winter campaign advocating the use of the bi-chloride of mercury treatment and care of seed after cutting.

The Cobblers in general are extra good, particularly those planted the latter part of May and early June. Some Mountains are showing a 5 per cent increase in the percentage of mosaic over last year's record. Such fields will be eliminated and not be given a second inspection. On the whole the crop outlook is very good, but rain is needed to break the drought of the last three or four weeks.—**S. G. Peppin, August 1.**

Virginia.—The potato movement from eastern Virginia has been

unexpectedly heavy during the season just closing. The Norfolk area is still shipping in considerable quantities, but it is expected that the balance of the crop will be moved within the next ten days. The prevailing prices have been very unsatisfactory to the producer. While the yield has been large, the net returns have been discouragingly low.

The improved grading practiced by the "Southern Produce Association" at Norfolk has been a great help in disposing of its crop under the adverse market conditions. Officers of the Association state that it would have been practically impossible to have handled the potatoes without the guarantee of good grades. Comparatively few complaints from the potato dealers regarding either quality or grade have been received.

The potatoes in the Eastern Shore section have been moving rapidly for the past six weeks. Up to and including July 21, 11,924 cars had gone to market from the Eastern Shore section the present season. This is the largest total shipment to market per corresponding date in any previous year.

The glutted condition of the market is largely responsible for the slow movement of the crop. The daily distributing sheet of the Eastern Shore Produce Exchange shows that the Association is reaching practically every town of any size from Atlanta, Georgia, to Portland, Me., and west to Staunton and Chicago, Ill. Of the ninety-five points purchasing on June 21, fifty-five of them were small towns, receiving one carload only, while the other forty varied from two to twenty-nine cars each. But for this careful distribution, it would have been impossible to have moved the crop. It certainly emphasizes the importance of a close study of the consuming markets.—**T. C. Johnson, July 24.**

Washington.—The writer recently returned from a two-weeks' trip in the State. Most of the time was spent working with potatoes. One or two observations are worthy of note and an account of these is given below.

Upon the request of the Chamber of Commerce at Tonasket the writer spent a day in the upper Okanogan Valley looking over conditions. There has never been any potato work done in this community due to the fact that they have no county agent. The potato fields were found to have nearly 100 per cent mosaic appearing in its final stage. A fairly large amount of streak was also present. Seed treatment was not practiced in this locality and therefore a large amount of fungus diseases were present.

Next spring a program will be instituted in that community for the purpose of cleaning up the potato diseases in the upper Okanogan Valley.

West of the Cascade Mountains a strain of Netted Gems was found that has a very little mosaic in the various plots. This particularly attracted the writer's attention. In Skagit County there are five demonstration plots planted with the Angler strain of Netted Gems. This seed was purchased a year ago from Mr. H. E.

Angler of Richfield, Washington, by Mr. Byron West of Mount Vernon, Washington, and the county agent secured the seed from Mr. West for use in the demonstrations.

In Pierce County the county agent secured a ton of seed direct from Mr. Angler this spring for a Mr. Castle, of Roy. This patch was inspected thoroughly and only one plant was found showing any indication of mosaic. The potato vines were about one foot high and very thrifty and vigorous and are growing in a sandy loam soil.

The same strain of seed was secured by the county agent in Pacific County for demonstration plots located all the way from Frances down the Willapa River valley and also on the peninsula at Oysterville and Wallicut. No mosaic was discovered in any of the plots that were inspected where the Angler strain was used.

At Menlo in Pacific County Mr. Lily is growing a strain of Beauty of Hebron potatoes that he has had on his farm for over thirty years. This patch was inspected and no indications of mosaic were observed.

The finding of these two strains is rather remarkable and the writer will keep this seed under very close observation and see what develops in the future. There seems to be no reason for a marking of the mosaic since ideal weather conditions were prevail-

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ing for the symptoms of this disease to show. Most of the time the weather was cool and there was at least a partial cloudiness.

One of our demonstrations in Menlo on the farm of Mr. O. Halverson showed the value of using certified seed. In some uncertified seed we found that out of a total of 173, 94 of them showed Mosaic. On certified seed of the same variety, growing next to the uncertified material, we found out of a total of 176, 11 that were affected with mosaic.—**George L. Zundel, July 17.**

Wisconsin.—The potato crop is in excellent condition in Wisconsin this year. The stand is good, the weather has been comparatively cool, favoring vine growth, and the rainfall has been abundant.

It is also conspicuous that the above conditions have favored the expression of the mosaic disease. Apparently the seed potato inspection service would be able to get an accurate reading on mosaic this year.

The certified acreage in Wisconsin will be increased this year Over 500 growers have applied, including some of the large operators. The inspection of fields will begin on July 20.

Considerable experimental work on mosaic disease has been started in the Triumph fields. The early season records taken to date show some very interesting results on the tuber index work started at Madison during the winter.—**J. G. Milward, July 22.**

Western Interstate Potato Tour.—The objects of the tour are to inspect fields of Triumph potatoes entered for certification in the States of Nebraska, South Dakota, Montana, North Dakota, Minnesota and Wisconsin, get acquainted with men interested in the production of certified seed, and to study the certification standards and methods of the respective States. The itinerary of the tour is as follows:

Aug. 11-16—Kimball and other points in western Nebraska.
Aug. 18-19—Black Hills section of South Dakota.
Aug. 22-28—Bozeman, Montana, and a tour through Blaine, Phillips and Valley Counties of the same State, with a side trip on the twenty-third to Glacier Park for validation of tourist tickets.
Aug. 28-Sept. 1—Minot and Fargo, North Dakota.
Sept. 2-3—St. Paul and Stevens Point, Minnesota.
Sept. 4-6—Rhinelander and Antigo, Wisconsin.

Walter M. Peacock.

NOTES ON RECENT LITERATURE

ANONYMOUS. — Bad season for rhizoctonia. — *Penn. Dept. of Agr. Seed Potato Circular 24, July 15, 1924.* — The unusual cool-

ness and excessive moisture of the last month have been very favorable to rhizoctonia and it is reported as causing not only considerable buring of the sprouts but also some damage to well grown stalks in Pennsylvania. These are girdled at or near the surface of the ground and the top turns yellow and wilts. This form of damage from rhizoctonia is common in cooler northern sections where even in summer the soil temperature remains at a low level. In the early part of the season the fungus of the disease attacks the sprouts causing misses, retarded or weak plants. Seed treatment would greatly reduce the damage and though seasons like this are uncommon the cost of seed treatment is so small that it pays in the long run to make it a regular part of potato culture every year.—**Walter M. Peacock.**

FENTON, F. A., and HARTZEL, ALBERT.—Bionomics and control of the potato leafhopper.—*Iowa Agricultural Experiment Station Res. Bul. No. 78, pp. 379-440, July, 1923.*—The authors consider the potato leafhopper the most serious insect pest affecting the potato crop of Iowa and possibly in the Mississippi Valley. The diseased condition known as hopperburn is the direct result of leafhopper injury. The relative susceptibility of the five different kinds of potatoes studied was found to be in the following order: Triumph, Early Ohio, Irish Cobbler, Green Mountain, and Rural New Yorker. The authors believe that this varietal susceptibility is not due to inherent resistance but rather to host selection by the ovipositing females.

In Iowa the potato leafhopper usually produces two broods. If the season is cool or there is an early frost only a partial second brood may be developed.

The subject matter of the bulletin is divided into three parts. Part I is devoted to the bionomics of the insect. Part II deals with hopperburn, and Part III to control measures. The character of the potato leafhopper and of hopperburn leaf injury is excellently portrayed in a colored plate in which different stages of development are depicted. The bulletin is well illustrated by charts and figures, and every potato grower in the potato leafhopper infested area should find the information presented by the authors of great interest to them.—**W. Stuart.**

GOLINSKA, JADWIGA. — [Sur la tuberisation des pommes de terre cultivees des boutures.] — *Acta Societatis Botanicorum Poloniae* **2: *1, 1924.*** — The author divides the life of the potato plant into two phases,—a phase of differentiation and a phase of tuber formation. The experiments of de Langenthal, King and Roemer cited de Vries (9 p. 681) show a high negative correlation between the two phases discussed indicating that the prevention of tuber formation of the potato will result in the increased production of seed ball. The author in an attempt to raise potato plants without tubers made cuttings of the potato plant. When well rooted they were divided into two groups. One lot was trans-

planted with at least one axillary bud covered with earth. In the second lot the soil covered the root system and not any of the axillary buds. Both lots grew vigorously and flowered. The first lot produced tubers in the ground on thread-like arrangement. This threaded arrangement is supposed to be the result of these tubers expanding their buds before completing their growth. The second lot produced aerial tubers. These aerial tubers often occurred at the end of slender stems resembling stolons. Only two plants in the second lot were completely devoid of tubers but these were as vigorous as the others. In addition not one plant of the second lot showed any characteristic of the starch malady (Starkekrankheit). The author relates that it is not sufficient to prevent the formation of tubers in order to produce seed balls. The cause of the sterility of the potato, notwithstanding the numerous researches, remains still well obscured.—**Walter M. Peacock.**

MOORE, H. C. — 300 bushel potato club. — *The Michigan Farmer*, 163: *1, July 5, 1924.* — In the fall of 1923 twenty-five growers of certified seed potatoes qualified for membership in the Three Hundred Bushel Club of Michigan Producers' Association by each producing 300 bushels or more of potatoes to the acre on an area of at least two continuous acres. Fourteen counties were represented by members of this club. The average total yield per acre was 342 bushels with an average of 30.4 bushels of U. S. No. 1 potatoes per acre. The average yield for Michigan was 114 bushels per acre. The average yield on 2100 acres from certified seed in the same State was 192 bushels, a difference of 78 bushels in favor of certified seed.

Accurate data on the methods used in producing the 342 bushels yield was obtained from 23 members of this club. The average cost of production per bushel U. S. No. 1 grade as reported by thirteen growers who kept cost records was 44.2 cents.

Approximately 70 per cent of these potatoes were grown on sandy loam soil and the remainder on a clay loam soil. Twenty-two growers planted the Russet Rural and one planted the Green Mountain variety. Certified seed was used in all cases. Ten planted potatoes on an alfalfa sod; eleven on a sweet clover or clover sod; one after corn; and one planted potatoes after barley. Twenty-two used stable manure; one used no stable manure but applied 1,000 pounds of commercial fertilizer per acre. The average number of tons of manure per acre was 11.2. Twenty-one used commercial fertilizer with an average of 614 pounds per acre. The average size of seed piece was one and one-half to two ounces, or an average of 19 bushels per acre. The most general planting distance was with the rows 36 inches apart and the hills 14 to 18 inches apart in the row. The average number of cultivations given before the plants were up was 2.6 and an average of 2.8 cultivations were given after the potatoes were up. Twenty-two sprayed with Bordeaux mixture and arsenicals with an average of 5.4 applications.

Oversized Tubers

15 lots had from 0 to 5 per cent.
3 lots had from 6 to 10 per cent.
5 lots had from 11 to 20 per cent.

Hollow Tubers

15 lots had from 0 to 2 per cent.
6 lots had from 3 to 5 per cent.
2 lots had 10 or more per cent.

Nineteen lots had tubers of bright color, while four lots were dark in color. The latter was produced on a clay loam soil.

The following are a few of the spacing distances, with the accompanying yields per acre:

320	bushels.	Distance	38 x 13
400	"	"	36 x 16
390	"	"	36 x 16
385	"	"	36 x 18
381	"	"	30 x 26½
350	"	"	36 x 14
349	"	"	33 x 14
303	"	"	30 x 27

The author emphasizes that the grower of table stock should follow the methods used by the certified seed potato growers.— **Walter M. Peacock.**

J. L. C. — The Scottish potato industry, "Hub of the seed trade." — ***The Fruit-Grower*****, 57: 1, 484, May 8, 1924. —** Scotland is the hub of the seed potato industry and growers in the South secure Scottish seed at least every second year. The best known person in the seed potato trade is Archibald Findlay of Auchtermuchty. He introudced Up-to-dae, British Queen, Northern Star, and Majestic. Up-to-date and British Queen are popular favorites but are not resistant to the wart disease. The Majestic variety is fast coming into general commercial use.

The appearance of wart disease and the promulgation of Government orders restricting the free removal of susceptible varieties have changed the course of seed trade and brought popularity to new varieties. The early varieties which are not susceptible to wart disease, yield well and are of good quality are: America, Arran Rose, Immune Ashleaf, DiVernon, Resistant Snowdrop and Witch-hill Early. The second early and main crop varieties which have proved their claim to popularity are: Arran Comrade, Crusader, Great Scot, Katie Glover, Abundance, Golden Wonder, Kerr's Pink, Majestic and Tinwald Perfection. No restrictions have been placed upon the removal from one district to another in Scotland of seed of any variety grown on clean land. Before seed can be sent to England and Wales it has to be an ap-

proved immune variety and certified to be of 99.5 per cent purity, or, if susceptible varieties, the potatoes have to be grown not less than one mile from unclean land. The majority of the outbreaks of wart disease have been found in private gardens and allotments. An outbreak of the disease in one garden in a clean district may therefore be the cause of serious financial loss to farmers in the district.

There are some who believe that because a variety is immune to the wart disease it is second-rate in quality. This it not true. The Golden Wonder, Great Scot, Kerr's Pink and Majestic are first-rate quality varieties. Many varieties come and go because of the susceptibility of the too many diseases which eventually overwhelm them. It is hoped that a new variety high in quality and productiveness and able to withstand these diseases may yet be evolved.

The Scottish Board of Agriculture during the past year issued a leaflet giving distinguishing characteristics of the tuber, stem, foliage and flower of the potato, with illustrations. The descriptions are so complete that one should have little difficulty in readily identifying any impurities in their stock. Diseases are also dealt with in this publication.—**Walter M. Peacock.**

MISCELLANEOUS PAPERS

INTERMEDIATE POTATO SITUATION

(Contribution from the Fruit and Vegetable Division, Bureau of Agricultural Economics, U. S. Dept. of Agriculture)

August interest centers on the States shipping intermediate potatoes and on the prospects for the late crop. Maryland, Virginia, Missouri, Kansas and southern California usually are pretty well finished marketing their early potatoes by the end of July, and the season in Kentucky is fast waning. However, because of the late season in many of these districts, movement may be continued well into August.

As shown in the accompanying table, the 12 leading States becoming most active this month are New Jersey, the Long Island section of New York, Maine, Wisconsin, Minnesota, Nebraska, Colorado, Utah, Idaho, Washington, Oregon, and northern California. Center of the stage is held by New Jersey, two or three times as many potatoes coming from that region as from any other district. Last August, in spite of a poor crop, one-fourth of the entire month's shipments originated in New Jersey, and in 1922 that State claimed 45 per cent of the August total, with a record of 36 per cent in 1921.

Preliminary estimates indicate slightly decreased acreage in

southern New Jersey, but ideal growing weather probably will result in an average yield twice that of 1923 and in an early crop exceeding 4,500,000 bushels. With respect to quality, New Jersey potatoes should be the best in several years. The farmer's problem will be to find a profitable market, for an excellent stand is reported on Long Island also, with prospects of a good yield, and New York City and other northern markets may be largely supplied from Long Island. Northern New Jersey has planted far less than usual of its acreage to Giants, and appears to be turning attention to Cobblers.

Carlot Shipments of Intermediate Potatoes from Leading States, with special reference to August

	NEW JERSEY				LONG ISLAND, N. Y.			
Month	**1924**	**1923**	**1922**	**1921**	**1924**	**1923**	**1922**	**1921**
July	*12	86	2234	2107	*7	46	93	203
Aug.		3869	8387	5854		1864	809	1342
Sept.		1706	4756	1634		1600	1684	889
	MAINE				**WISCONSIN**			
July	*..	43	56	18	*..	58	3	2
Aug.		293	198	579		186	205	76
Sept.		3969	1778	4452		1294	1377	754
	MINNESOTA				**NEBRASKA**			
July	*5	36	508	9	*3	12	51	267
Aug.		1755	1432	960		281	570	446
Sept.		6157	4167	4869		389	744	938
	COLORADO				**UTAH**			
July	*165	206	77	91	*45	97	96	185
Aug.		1099	788	1010		480	657	475
Sept.		1772	2365	3108		84	586	156
	IDAHO				**WASHINGTON**			
July	*77	76	35	166	*213	140	178	98
Aug.		1763	1415	1945		133	190	187
Sept.		1540	1310	1401		229	241	382
	OREGON				**N. CALIFORNIA**			
July	*30	33	22	2	*400	103	436	130
Aug.		350	321	105		467	416	693
Sept.		81	108	21		849	614	878

* To July 26 only.

Satisfactory results of last season encouraged Maine growers to plant more heavily this year, with greater care than ever in the selection of seed. North Central States decreased their potato acreage 5 per cent to 10 per cent, early crop prospects being reported good. The Kearney district of Nebraska is said to have 2,500 acres, compared with 4,250 last season; other early sections in that State have about 1,000 acres. Excellent July 1 condition, however, indicates that the total crop may equal that of 1923.

Less than 10 per cent of Colorado's 97,000 acres is in early potatoes, and total plantings are considerably decreased. While the

intermediate potato shipments from Idaho will be from an area about the same as last season, unfavorable growing conditions may sharply reduce the yield. Water shortage has affected the situation throughout the far West. Oregon's heavier plantings may be largely offset by this condition. Smaller acreage is reported in the Yakima Valley of Washington, but an increase of 2,500 acres in the Delta district of California. July condition of the crop in California was only 85 per cent of normal.

Eighteen leading late potato States have an estimated total of 2,402,000 acres devoted to this crop, which represents decreases of 3 per cent to 10 per cent in all but four of these States. Maine, New York, Montana, and Oregon alone show slight gains. Based on July 1 reports, the total production in these 18 States may be 33,500,000 bushels less than last year. This probably foretokens fairly good market outlets for growers and shippers, in spite of the larger intermediate crop in many sections.

The latter part of July, growers were getting low returns for their shipments. Eastern Shore of Virginia barrelled Cobblers were bringing only $1.75-$2.00 f. o. b., but then strengthened slightly. A year ago, the price was around $4.50 a barrel at shipping points. In the Kaw Valley of Kansas, Irish Cobblers declined to a range of 75 cents to 90 cents per 100 pounds sacked, compared with the cash-track price of $1.30 in July, 1923. Early Ohios from southern Nebraska sold at $1.50 f. o. b. a year ago, but recently brought only $1.00 to $1.15, and Idaho's early deal opened with a steady price of $1 per 100 pounds. Heavy market supplies account largely for the lower ranges. July potato shipments this year filled approximately 21,000 cars, in addition to the quantities hauled to nearby cities by wagon or truck. In July, 1923, the carlot shipments totaled about 15,700. Late July jobbing prices in consuming centers showed a range of $1.75 to $2.75 per barrel for Eastern Shore Virginia Cobblers, with New York City quoting first arrivals from Long Island at $2.25 to $2.50 and St. Louis dealers selling Kansas Cobblers in 100-pound sacks at $1.30 to $1.50.

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ROGUING SEED POTATO FIELDS

Walter M. Peacock

The roguing season is here. Again most seed potato growers are finding more diseased plants than they had hoped to find after a so-called careful roguing of last year. In the so-called careful methods of roguing as practiced by many growers there are some big loopholes. Diseased plants are not removed early enough; when rogued, are frequently left lying where they are dug; the field is not rogued often enough; when rogued late, frequently all the tubers from the diseased plant are not removed from the field. Too little attention has been given to the control of aphids. Fields

intended for the production of good seed are many times too near fields of potatoes in which no attention is given to the control of some diseases and insects. For these reasons many growers have become discouraged and have given up the idea of the possibility of producing good seed potatoes.

Since it is known that the most destructive diseases that are controlled by roguing are transmitted by aphids which are commonly known as plant lice the diseased plants should be removed as soon as the diseases can be detected. Remember that aphids go from one plant to another for various reasons. An aphid that has been feeding on a plant affected with one of the virus diseases, such as leafroll, mosaic, and spindle-tuber, goes to a healthy plant and lunches there; the healthy plant may become diseased. Therefore, early roguing will reduce the number of plants to be rogued out and lessen the amount of disease in the next year's crop.

Perhaps the biggest loophole in the roguing methods as practice by many of the seed potato growers is the leaving of the rogued-out plants lying on the ground where they are dug or pulled. One aphid might have been living on the diseased plant that was rogued out and this one insect if given his liberty is sufficient to transmit a disease such as leafroll or mosaic to one or more healthy plants. Hence, it is not sufficient to only dig up the diseased plant, but the aphids must be killed that may be on them. Furthermore, the diseased plant that has been rogued out must be removed from the field. If the rogued-out plant is left lying on the ground with no aphids on it, an aphid may come along and eat some of this plant and then pass on to a healthy plant for its next meal, thus spreading the disease.

Some growers have devised methods of taking the rogued-out plants from the field. F. Del Clements of Fredericton, New Brunswick, Canada, recently gave the writer a description of a container which they have used to carry off the rogued-out plants. It is cylindrical in shape and made of closely woven canvas. Rigid hoops are used for giving shape to the lid, top and bottom of the container. The hoop used in making the lid should be slightly larger than the one over which it should fit tightly. The insects may be killed by pouring the plants into a barrel containing a solution of sulphate of nicotine, known as black-leaf No. 40, or kerosene emulsion. The latter is probably as effective for this purpose and is cheaper.

In making the first roguing when the plants are small, some may find it advantageous to carry a small pail containing a strong solution of kerosene in which to dip the plants as soon as they are dug. After this treatment the plant may be left in the field, except the seed piece which should be carried off and destroyed. Aphids are not likely to eat a discarded plant treated with kerosene emulsion with growing plants readily accessible. Be sure to get all of the plant, including the seed piece, in roguing. If the seed piece is left new stems may be produced. These would aid in spreading the disease later. Infection may take place late enough so as not

to be noticed or occur at such a time when the virus diseases may be masked and cannot be detected.

Do not be satisfied in roguing your field or seed plot once or twice. Do it often. The grower who rogues often is the gainer in the end. A growing diseased plant is liable to be of a constant contamination to the healthy plants. Do not allow diseased plants to grow for aphids to feed upon.

In making a late roguing considerable care should be taken to see that all the tubers are removed not only from the soil but from the field. If the tubers from a diseased hill are not removed from the field they may be picked up when the crop is harvested. Hence these rogued-out tubers would aid in carrying the diseases to the next crop.

Some growers are not giving sufficient attention to the control of aphids. They seem to forget that these little insects have the ability to transmit such diseases as leafroll, mosaic and spindle-tuber from a diseased plant to a healthy one. If the aphids could be exterminated, it would be easy to control these diseases.

Remember that aphids under favorable conditions increase with great rapidity. A female aphid is capable of giving birth to from 50 to 100 young aphids without the intervention of a male. During the growing season only females are produced. The period between generations is usually two or three weeks. Thus one adult female in a period of twelve weeks may have from 5,000,000 to 1,000,000,000,000 descendants.

The uncared-for hedge rows furnish good places for the aphids to winter over. When these hedge rows are cleaned out and the wild rose bushes are destroyed much will be accomplished in controlling the aphids.

Seed plots and fields intended for the production of good seed potatoes are frequently too near fields of potatoes in which no attention is given to the control of some diseases and insects. Plant lice do not usually migrate far, but when caught in the air by a gale of strong wind they are liable to be blown quite a distance. A community in which every potato grower is doing his best to control insects and diseases in order to produce good seed makes an ideal section from this point of view in which to produce certified seed.

The diseases which can be controlled or partly controlled by careful and thorough roguing are,—leafroll, mosaic, spindle-tuber, curly dwarf, streak, black-leg, bacterial wilt, fusarium wilt and verticillium wilt. Weak plants also should be rogued out as such plants have lost their vitality to produce well.

While roguing, be alert. Also bear in mind that the demand for better seed is constantly growing. The number of growers of table stock who plant certified seed is on the increase. They have found it profitable to plant certified seed potatoes. It is the business of the seed potato grower to maintain and increase this apparent ever-increasing demand for certified seed potatoes.

LONG ISLAND POTATO GROWERS STAGE SEVENTH ANNUAL POTATO TOUR

E. V. Hardenburg

It is a rather popular opinion in the public mind that Long Island, New York, is noted mainly for its palatial summer homes, summer resorts and truck gardens. Potato eating residents of the metropolis also know of the high quality potatoes grown somewhere on the Island. Few people, however, appreciate the size of Long Island or the location and extent of production of this important food crop. Most of it is produced in the two counties comprising most of the Island, namely Nassau and Suffolk. The Nassau county crop is grown mainly about Mineola and Hicksville, approximately 40 miles east of New York City. This crop is about half Irish Cobbler and half Green Mountain. It is marketed by motor truck in the Wallabout wholesale market in Brooklyn. Contrary to popular idea most of the Suffolk County crop is grown on the extreme eastern end of the Island, beteween 75 and 100 miles east of the metropolis. This crop is practically all of the Green Mountain variety, and is marketed mainly in box cars over the Long Island Railroad. Riverhead, the county seat of Suffolk County, bears the distinction of being the only potato shipping point in New York State which has ever loaded over 1,000 cars in a single season.

Beginning in 1918 the Suffolk County Farm Bureau Association has conducted an annual potato field tour, during which potato demostrations, experiments and field meetings have furnished the attraction for approximately 150 people over a route covering 50 to 75 miles in the course of two days.

The seventh annual tour was this year a joint affair with the Nassau County Farm Bureau, and was held on June 25, 26, and 27. The first day was spent in visiting demonstrations in Nassau County. Several of the fields in this county are as large as 100 acres, all quite as level as the prairie. Visitors were present from New York, Vermont, New Hanmshire, Maine, Massachusetts, New Jersey, Wisconsin, Illinois, Prince Edward Island, New Brunswick and Washington, D. C.

The tourists were welcomed at the first stop in Nassau County by Mr. Fred Tabor, of Orient, Long Island, acting in the absence of S. H. Weeks, of Nassau County, who was unable to be present. Professor Paul Work, of the State Colloge of Agriculture, gave some excellent reasons why potato tours are worth while. The principal value consists in the contact between the producer and the consumer of seed potatoes, enabling both to have a clearer understanding of the problems involved. Seed source demonstrations in which from 30 to 50 different strains were planted were visited at several points in the county. Dinner was served at Mas-

sapequa Grange Hall by one of the only two granges in Nassau County. In the afternoon talks were given by Dr. M. F. Barrus, of the College of Agriculture, on potato diseases control, and by Dr. E. V. Hardenburg, on fertilization of the potato. The last stop of the day was made at the State Institute of Applied Agriculture, at Farmingdale. Here the visitors were welcomed by Director H. B. Knapp, a discussion of potato insect control, by Professor C. R. Crosby, of Cornell, and the gardens and demonstrations of the Institute visited. In the evening a banquet was served in the dining-hall by the home Economics Department of the Institute. E. V. Titus, of Glen Cove, acting as toast-master introduced Director H. B. Knapp, Dr. W. H. Martin, of New Jersey, and Professor Wm. Stuart, of the U. S. Department of Agriculture, as speakers.

The following day the tour was conducted through the very extensive producing area along the southern shore of Suffolk County in what is known as the Hampton section. Some of the largest fields in New York State, several of them over 100 acres in size, are grown in this region. A stop was made in the afternoon at one of the large seed source demonstrations in Suffolk County at the farm of L. E. Downs, at Southampton. Only such strains of seed as have been planted in car-load lots on the Island this year are included in demonstrations. This furnishes an excellent opportunity for both growers and consumers of certified seed potatoes to evaluate the quality of seed being used on the Island this year. Altogether the condition of the crop and the quality of the seed used is probably better at this time than it has been in many years, if ever before. Blackleg is less common than usual, and with very few exceptions, no strain of seed showed over a very small percentage of either mosaic or leaf roll. Chairman E. W. Van Brunt, of Southhampton, explained the nature and purpose of the seed source demonstrations after which Professor Wm. Stuart gave some of his observations on the seed improvement work as it is being conducted in various parts of the United States. Perhaps the most interesting meeting of the tour was that held as an evening session at Water Mill, in the Community House where supper was served by Southampton Grange. E. W. Van Brunt, acting as chairman introduced among the speakers, Dr. C. E. Ladd, the new director of extension at Cornell, who demonstrated by means of price curves, many interesting facts concerning the present and the probable future price situation. Professor P. H. Wessels, of the Long Island Vegetable Research Farm, entertained for several minutes with some original Long Island Reared Rural Rhymes. Dr. E. V. Hardenburg discussed some phases of the better seed potato situation, pointing out particularly the work that the State College is doing for the benefit of both up-State and Long Island potato growers. Short talks were given by representatives from nearly all of the other states and provinces. It is an interesting fact that with very few exceptions Suffolk County growers are using seed from more than one source, and this year's supply was obtained from Prince Edward Island, New York, Win-

consion, Maine, Vermont, New Brunswick, Minnesota, North Dakota, New Jersey and Virginia, in about the order named.

The last day of the tour was conducted over the northern shore of the Island, starting at Riverhead. Stops were made at the Long Island Vegetable Research Farm where work of this new institution was explained by Professor P. H. Wessels, Dr. E. E. Clayton and Dr. H. C. Huckett of the staff. Other speakers during the forenoon were Dr. C. E. Ladd and Dr. W. H. Martin. A Long Island duck dinner was served at Arshamomoque Inn. In the afternoon the potato fertilizer experiment at the farm of T. C. Fox, at Southold, was explained by Dr. Oswald Schreiner of the U. S. Department of Agriculture. This experiment is a cooperative enterprise between the U. S. Department of Agriculture, the State College of Agriculture and the Suffolk County Farm Bureau, and is similar to the fertilizer experiment which has been going for several years at Riverhead on the farm of H. R. Talmage.

THE POTATO FLEA BEETLE A SERIOUS POTATO PEST

W. C. Edmundson

There is no insect pest that causes so much damage to the potato crop of the Greeley district as the potato flea beetles. The adult beetles attack the young plants, puncture the leaves and sometimes the punctures in the leaves are so numerous that plant growth is seriously impaired. It is not the adult beetle, however, that causes the greatest damage to the potato crop, but the larvae that make their appearance later in the season, feeding on and near the surface of the tubers. If the larvae attack the tubers early in the season the wounded skin of the tuber heals over and small markings are left to indicate the early damage of the insect on the tuber. But if the tubers are attacked late in the season, conspicuous burrowings are left on the surface of the tubers, which is very objectionable to the trade.

Potato inspectors have stated that a large percentage of the crop of certain localities in this district have had to be sold as grade No. 2 because of the flea beetle injury on the tubers.

Bordeaux mixture, together with Paris Green, has been recommended for years as a spray for the potato flea beetle. This spray acts as a repellent only and while it may give temporary relief to the vines it does not control the adults nor keep the larvae from injuring the tubers. It has been noticed in past years that in wet seasons the injury on the tubers is more pronounced. It has also been observed that tubers in poorly drained soils or soils that are heavily irrigated are much more seriously damaged. Likewise the damage is more serious in heavy soils than on sandy soils.

If these observations are correct, potato growers of the irrigated section will have to be much more careful with the application of irrigation water and with drainage. While it is believed that some time a spray may be discovered that will control the potato flea beetle, it is also believed that growers may greatly lessen the amount of damage by proper cultural methods.

50.824

METHODS OF DETECTING MOSAIC BEING STUDIED IN NORTH DAKOTA

H. L. Bolley

The writer visited the Louisiana Station and made an extended potato inspection tour in April in surrounding regions in Alabama and Texas and was particularly interested in the extensive field plot mosaic tests conducted by the Louisiana Station. He saw the field crop potato specialists inspecting numerous plots which were grown from northern raised Triumph tubers and he often noticed the strained expression of doubt on the faces of some of the mosaic readers which indicated that they sometimes thought they saw mosaic but were not quite sure about it. In other words, it is an interesting fact to note that under certain conditions it is often difficult for the expert to read the mosaic expression on some of the potatoes. It is apparently far easier to do this under the quick growing conditions of the moist southern climate than it is in the semi-dry growth regions of the northwest plains. Under the northwest semi-dry land conditions potato vines grow very strong, rugged, and naturally rough as compared to the southern growth. The leaves or leaflets are very much more intensely green and very much thicker in texture. The sunlight and heat is even more intense than it is under the hottest conditions in the Louisiana territory and under these conditions it is very much more difficult to locate indefinite (mild) mosaic infection than it is under the thin leaves of the southern crop.

The writer and the other workers at the Station in North Dakota have made special study of the detection of mosaic under North Dakota conditions. It is advised that it can be done with rather definite certainty under the brightest light and under the hardest dry growing conditions and apparently at any time after the vines have reached the budding stage to the time when they begin to die from natural maturing. The writer is pleased to note that the ordinary plant press properly put into operation in connection with a proper survey of the vines which can be done quite rapidly, makes it quite possible that there be little or no necessity of missing mosaic on any suspected vine or vines.

The inspectors in North Dakota carry a small plant press with

facilities for pressing potato leaves, and all questionable determinations will hereafter be made from pressed leaves. After inspection of a field which shows symptoms of mosaic but does not show it so clearly as to be pronounced mosaic by ordinary field inspection, typical leaves are taken from any suspected vines and in sufficient number to satisfy the inspector. These are put under pressure and rapid drying and after the pressure has thinned the leaves so as to flatten out all roughness, thinning them to the ordinary thinness that is assumed in twelve hours to twenty-four hours under normal plant press methods—one is able to read by transmitting light through glass, quite plainly, evidences of mosaic which otherwise would not in any manner be detected in the field. The method has many other advantages in that specimens are retained for reference and will be available for further reference at time of tuber certification.

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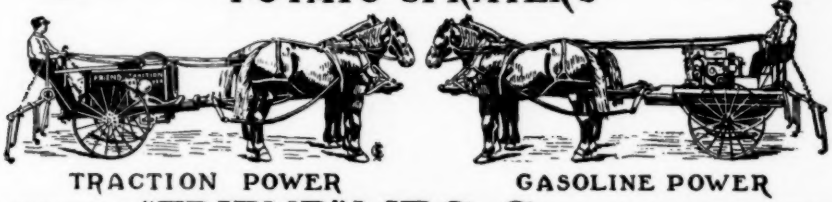

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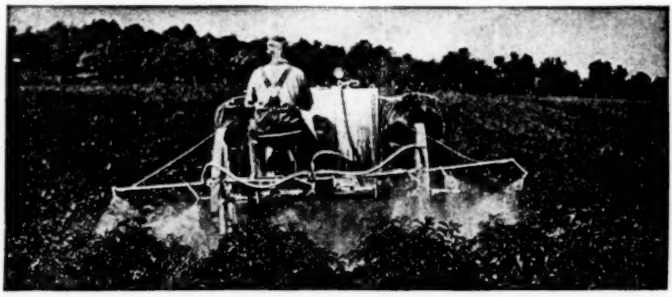

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